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Mineral Industry Surveys

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TIN IN NOVEMBER 1999

Domestic consumption of primary tin in November was estimated by the U.S. Geological Survey to be about the same as that in October and just slightly higher than that in November 1998.

The *Platt's Metals Week* average composite price for tin in November was $3.92 per pound, 6% higher than in October, and 6% higher than in November 1998.

Broken Hill Proprietary Company Ltd. (BHP), based in Australia, announced that after a strategic review of its steel portfolio, its steel subsidiary, BHP Steel, would become a simpler, smaller business. BHP Steel's projected divestment would involve about half of its steel activities, including a tin mill operation. The new, reduced firm will concentrate on flat-rolled products made in Australia, Asia, and New Zealand, taking advantage of relatively low cost steel from the Port Kembla, Australia, steel plant. The firm's tin mill is also based at Port Kembla. BHP Steel just recently finished implementation of its "tin mill 2000" upgrade at the Port Kembla plant, bringing it up to a capacity of 500,000 tons annually. A second continuous electrolytic tinning line, which has the dual capability of producing tinplate or tin-free-steel, was installed along with a single reduction temper mill, as well as a coil preparation and oiling line. The project also involved major upgrades of the four-high temper and double reduction mill, the continuous annealing line, and the existing electrolytic tinning line. The process of divestiture is scheduled to take place over the next 12 to 18 months. Industry observers speculate that Nippon Steel Corp. (Japan), Posco (Republic of Korea), Corus Group (The United Kingdom), and Usinor (France) could be among the interested acquirers. BHP stressed that the tin mill, and all other units to be divested, will continue to operate if they are unable to be sold (Tin International, 1999a).

Corus Group, the new name for two recently merged major steel producers, British Steel Corp. (The United Kingdom) and Hoogovens (The Netherlands), has announced that the headquarters for its steel packaging division will be at Ijmuiden, Holland. The two separate corporate entities are now being integrated. The former British Steel unit consists of two plants at Trostre and Ebbw Vale, South Wales, currently employing 2,100 people. Hoogovens operates three tin mills in Ijmuiden (Holland), Bergen (Norway), and Duffel (Belgium), employing 1,700 people (Tin International, 1999b).

The Renison Bell tin mine in Tasmania, Australia, has had a 38-year history as one of the major tin mines of the world. For most of that period, it was owned by RGC Ltd., formerly known as Renison Goldfields. But, in 1998, RGC announced that it intended to concentrate on its core business, mineral sands, and thus offered for sale its other operations, including Renison Bell. In 1998, Renison Bell was bought by Murchison United Ltd. of Perth, Australia. Before that purchase, Murchison was a small operator with a 60% interest in the Mt. Cuthbert SX/EW copper project, which it managed in western Australia. The purchase was effected by a complex use of debt financing. In addition, Murchison entered into foreign exchange hedging contracts and tin metal put options to underwrite the debt servicing obligations. During 1999, the new management reduced the work force at Renison Bell from 307 to 225 and began a steady overhaul of the entire treatment circuit. Murchison has renegotiated the existing tin smelter contracts with Malaysia Smelting Corporation (Malaysia) and Thaisarco (Thailand). Renison Bell currently supplies 5% of the Western World's tin concentrate. It treats 750,000 tons annually of tin ore grading 1.8% tin to produce 9,600 tons yearly of tin-in-concentrate grading 62% metal (Metal Bulletin Monthly, 1999).

ITRI (Uxbridge, England), the world's foremost tin research laboratory, announced the opening of its new SOLDERTEC center, located at its headquarters location. The center is designed to be a focal point for:

a) information on worldwide legislative movements which could encompass a ban on the use of lead in solder,
b) initiatives being taken in leading industrial countries to adapt to the possibility of such bans, and
c) approaches to ease the way for industry to use new technologies that will be needed to cope with alternative materials.

Research into lead-free alloys for soldering has been proceeding

for over 10 years, beginning with new alloys for potable water plumbing and now is concentrating on the use of lead-free solder alloys in electronics manufacturing. ITRI's specialists generally have been recommending alloys within a certain composition range of the tin-copper-silver system as replacements for tin-lead alloys. This system appears to be most suitable for surface mount, wave and hand soldering, etc. While the electronics industry has for some time recognized that tin-lead solder will eventually need to be eliminated in their products, there is currently no "one-size-fits-all" specific alloy to replace it (Tin International, 1999c).

Update

On December 30, 1999, the *Platt's Metals Week* composite price for tin was $4.04 per pound.

References Cited

Metal Bulletin Monthly, 1999, A new lease of life for Renison Bell: Metal Bulletin Monthly, no. 344, August, p. 36-37.

Tin International, 1999a, BHP to sell off tin mill business: Tin International, v. 72, no. 11, November, p. 1.

———1999b, Corus to have tinplate hq at Ijmuiden: Tin International, v. 72, no. 11, November, p. 14.

———1999c, ITRI launches lead-free solder center of excellence: Tin International, v. 72, no. 11, November, p. 15.

TABLE 1
SALIENT TIN STATISTICS 1/

(Metric tons, unless otherwise noted)

		1999		
	1998	October	November	January-November
Production, secondary e/ 2/	16,100	900	900	9,900
Consumption:				
Primary	37,100	3,400	3,410	37,500
Secondary	8,620	916	877	9,460
Imports for consumption, metal	44,000	4,250	NA	NA
Exports, metal	5,020	569	NA	NA
Stocks at end of period	10,700	8,390 r/	8,770	XX
Prices (average cents per pound): 3/				
Metals Week composite 4/	373.26	369.61	391.55	XX
Metals Week New York dealer	261.38	256.44	274.19	XX
London, standard grade, cash	251.00	246.00	265.00	XX
Kuala Lumpur	246.06	242.98	259.21	XX

e/ Estimated. r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices.

2/ Includes tin recovered from alloys and tinplate. The detinning of tinplate (coated steel) yields only a small part of the total.

3/ From Platt's Metals Week.

4/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed and finance charges, and a risk factor. It normally is substantially higher than other tin prices.

TABLE 2
METALS WEEK COMPOSITE PRICE 1/

(Cents per pound)

Period	High	Low	Average
1998:			
November	380.73	361.99	370.09
December	363.97	350.47	357.58
January-December	413.70	350.47	373.26
1999:			
January	353.37	343.72	348.60
February	364.44	351.24	356.57
March	363.63	356.99	361.19
April	377.31	357.08	365.05
May	384.76	373.61	380.66
June	368.44	354.81	360.01
July	362.56	356.00	357.87
August	362.04	355.27	358.10
September	372.30	357.68	364.61
October	383.67	363.53	369.61
November	397.54	385.56	391.55

1/ The Metals Week composite price is a calculated formula, not a market price, that includes fixed and finance charges, and a risk factor. It normally is substantially higher than other tin prices.

Source: Platt's Metals Week.

TABLE 3
TINPLATE PRODUCTION AND SHIPMENTS IN THE UNITED STATES 1/

(Metric tons, unless otherwise noted)

Period	Tinplate waste (waste, strips, cobbles, etc.) (gross weight)	Tinplate (all forms) Gross weight	Tin content	Tin per metric ton of plate (kilograms)	Shipments 2/
1998	W	1,700,000	8,900	5.2	2,320,000
1999:					
January	W	127,000	695	5.5	185,000
February	W	135,000	702	5.2	177,000
March	W	143,000	757	5.3	218,000
April	W	144,000	770	5.4	195,000
May	W	148,000	795	5.5	196,000
June	W	144,000	748	5.2	207,000
July	W	154,000	748	4.9	193,000
August	W	172,000	830	4.8	222,000
September	W	166,000	778	4.7	209,000
October	W	144,000	737	5.1	189,000
November	W	143,000	775	5.4	NA

NA Not available. W Withheld to avoid disclosing company proprietary data.
1/ Data are rounded to three significant digits.
2/ Shipments data from American Iron and Steel Institute monthly publication.

TABLE 4
U.S. TIN IMPORTS FOR CONSUMPTION AND EXPORTS 1/

(Metric tons)

Country or product	1998	1999 September	1999 October	1999 January-October
Imports:				
Metal (unwrought tin):				
Bolivia	5,160	650	354	2,970
Brazil	4,710	200	620	3,680
Chile	894	255	490	3,360
China	9,870	1,440	1,240	11,400
Hong Kong	840	35	--	169
India	359	--	--	--
Indonesia	7,880	503	640	6,450
Japan	222	99	40	263
Malaysia	1,870	--	20	764
Peru	8,650	1,290	785	8,700
Singapore	822	--	--	60
Thailand	540	--	--	20
United Arab Emirates	100	--	--	--
United Kingdom	790	19	--	41
Vietnam	212	--	--	--
Other	1,060	111	64	435
Total	44,000	4,600	4,250	38,300
Other (gross weight):				
Alloys	1,320	245	316	2,810
Bars and rods	1,160	58	78	715
Foil, tubes, and pipes	3	(2/)	(2/)	1
Plates, sheets, and strip	93	20	49	102
Waste and scrap	4,190	507	193	2,460
Miscellaneous	1,800	251	255	1,840
Total	8,560	1,080	891	7,930
Exports (metal)	5,020	681	569	5,690

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 5
CONSUMPTION OF TIN IN THE UNITED STATES, BY FINISHED PRODUCT 1/

(Metric tons of contained tin)

Product	1998	1999						
		October			November			January-November total
		Primary	Secondary	Total	Primary	Secondary	Total	
Alloys (miscellaneous) 2/	W	W	W	W	W	W	W	W
Babbitt	1,020	W	W	W	W	W	W	22
Bar tin and anodes	704	21	--	21	20	--	20	224
Bronze and brass	3,610	232	161	393	104	129	233	2,930
Chemicals	8,170	684	W	684	684	W	684	7,480
Collapsible tubes and foil	238	W	W	W	W	W	W	W
Solder	16,900	781	280	1,060	930	345	1,280	12,900
Tinning	1,100	32	--	32	33	--	33	473
Tinplate 3/	8,900	737	--	737	775	--	775	8,340
Tin powder	W	W	--	W	W	--	W	W
White metal 4/	778	W	--	W	W	--	W	W
Other	4,260	308	175	483	261	103	364	5,630
Total reported	45,700	2,800	616	3,410	2,810	577	3,380	38,000
Estimated undistributed consumption 5/	--	600	300	900	600	300	900	9,000
Grand total	45,700	3,400	916	4,310	3,410	877	4,280	47,000

W Withheld to avoid disclosing company proprietary data; included with "Other."
1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Includes terne metal.
3/ Includes secondary pig tin and tin components of tinplating chemical solutions.
4/ Includes pewter, britannia metal, and jewelers' metal.
5/ Estimated consumption of plants reporting on an annual basis.

TABLE 6
DEFENSE LOGISTICS AGENCY
TIN STOCKPILE DISPOSALS 1/

(Metric tons)

Period	Monthly disposals 2/
1998:	
November	--
December	20
January-December	1,900
1999:	
January	20
February	--
March	5
April	30
May	--
June	20
July	220
August	220
September	220
October	--
November	--
Total	735

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ These disposals represent only the daily spot sales program, not the long-term dealer contract sales program.

Source: Defense Logistics Agency.